



## FLIPPED LEARNING IN LISTENING CLASS

### Best Practice Approaches and Implementation

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#### Abstract

This recent study analyzed the feasibility of the best practices concerning how flipped classroom is implemented in listening class in order to develop students' literacy in digital era. Recently, one of the digital literacy models is Mobile Assisted Language Learning (MALL). Flipped classroom model in this paper is used through MALL, specifically by using Whatsapp (WA) application. The emergence of this new model is the vice versa from the conventional teaching process. In Flipped Classroom, the course is divided into two parts, inside and outside classroom. WA has been familiar social media in many levels of education and society all over the world. Therefore, this study implements flipped classroom by using WA model in university level. The course subject of this study is listening comprehension. English listening comprehension in university has its own issue. Listening has become one of the most significant concerns in teaching English as a foreign language. Thus, this recent study is aimed at giving precise insight toward the flipped classroom model in listening class and its impact to the students' literacy development. The research method used is case studies research design. The population is the students at one of the private universities and one state university in East *Priangan* Indonesia. The total samples are 21 students at the fourth semester of English Department from both universities. The observation, questionnaires and interview were used to verify the data. The result of this study is to give precise insight implementing flipped classroom model in listening class. It also explained the successful running of flipped classroom under the Mobile Assisted Language Learning.

**Keywords:** listening, flipped classroom, and MALL

#### Introduction

Currently the term “educational technologies” appearing in mind images of tablets, smart phone, interactive whiteboards, and computers. Undeniably, educational technology is implicitly comprehended mainly identical with the digital world and current devices. It is easy to forget that the education system itself is a technology, designed in part. The technology progress adds the process of teaching and learning discrepancy. As stated by Kern (2000, p. 223) “with the advent of widespread computer use and global communications networks, technology continues to affect how we read, write, and how we use written language to learn and to communicate with others.” The swift change of innovative technologies contributes imminent for educator to focus on the three variables associated such as content, pedagogy, and

technology in order to draw a professional lecturer. Those components boost new knowledge for the students in learning new concept in practical ways. One of the reasons related to the problem is concerning to the lack of lecturers' multimodal literacy in technology. Lanham (1993) in Kern (2000) argues “...we are drowning in information.... In such a society, the scarcest commodity turns out to be not information but the human attention needed to cope with it.” The reason why the lecturer should be updated is because the students of today quickly learn the range of technology that allows them to multi-task with various digital media and mobile technologies to surf the internet, send a text message or photo to a friend, play a digital game while listening to music, or create their own multimedia texts through hybrid texts such as weblogs. ‘Texting’ or SMS messaging is part of what

has been termed the new ‘textual landscape’ (Carrington, 2005). Moreover, this multitasking itself incorporates the merging and synchronizing of text, images, sound and movement. “Literacy involves familiarity with the conventions of text – how they are arranged and structured – and knowledge of how to use those conversations to design meaning, Kern (2000).”

The lecturers are in a time of transition with new theories and new pedagogy evolving while at the same time newer forms of digital communication are emerging. The increasing popularity of social networking sites such as YouTube, Whatsapp, Facebook, and Instagram, where students can participate with information about themselves or with a different identity, demonstrates that people are responding to the need to participate, create and produce their own texts for communication. The other popular digital source is Google board, Edmodo, Quiper School, and Microsoft 365. Those digital sources are multimodal literacy in 21<sup>st</sup> century learning model. Thus, the lecturer should engage with the new trends of multimodal literacy in order to improve their professional development. The aim of the 21<sup>st</sup> century skills is to produce higher-order thinking where the students are able to think critically, creatively and innovatively to prepare them to compete in the globalized world.

Introducing MALL as the new framework for lecturers to teach listening is matter. It integrates to the three essential aspects which are interrelated. They are mobile assisted language learning. Specifically, this recent study discusses the mobile assisted language learning that part of MALL. Though lecturers know and understand about MALL, there is still not well-understanding to integrate them in collaborative curriculum design (Boschman, McKenney, & Voogt, 2014). Applying technology in teaching and learning process is one of the challenges dealing with lecturer professional development. Preparing lecturers to cope with 21st century quality

learning requires lecturers' skill in understanding and dealing with different tools, information, and work that integrate with computer-based within the context of the lessons (Niess, 2005) and develop students' higher order thinking. Therefore, in pursuing students to be the 21<sup>st</sup> century learners the lecturers needs to master different kinds of teaching media. Especially in teaching listening, the lecturer needs various tools to engage the students in listening class and improved their knowledge in target language.

The objective of this paper is to describe the important of digital literacy in teaching listening. The tools delineate in this paper dealing with flipped classroom model in listening class by using Whatsapp application. The previous study conducted by Hsieh, Wu, and Marek (2016) revealed that the theory-based flipped instruction using online written and oral interaction not only enhanced the participants' motivation, making them more active in using idioms in class, but also significantly improved their idiomatic knowledge. It is indicating that the flipped learning was successful in achieving the instructional goals of the class. The authors present insights into the impact of theory-based flipped learning on motivation and idiomatic acquisition; student impressions of the online platform used, LINE; and offer recommendations for practice.

Based on Embi and Panah (2014) as cited in (Tazijan, Abdullah, Zainol, & Noor, 2017) in regards to Behaviorism and Constructivism learning theories, state how flipped learning in technological oriented classrooms encourages students to construct and expand their own knowledge. It allows students to learn at own pace, thus promote greater classroom engagement. Flipped learning has been closely related to different types of learning styles such as the peer assisted, collaborative and cooperative learning (Bishop & Verleger, 2013). (Maninun & Kittichartchaowalit, 2017) found that the flipped classroom and team-

based learning implies such organization of the educational process in which, when students attend face-to-face classes they already have some theoretical knowledge and understanding of the matter that will be discussed in the classroom. It makes the interaction more effective and fruitful as students feel more comfortable and confident asking questions and discussing the issues with the lecturer and peers. Moreover, (Tazijan et al., 2017) flipped learning helps improving students' verbal communication skills. As flipped learning brings excitement to the classroom, carefully designed lesson plans are required in order to make sure that learning can function at the maximum capacity. Previously, (Afrilyasanti, Rida; Cahyono, Bambang, Yudi; Astuti, Utari, 2016) found that "in implementing flipped classroom model for this group, some modifications (for instance the proportion of online and in class activities, or lecturing and practicing) are needed. It implies that, the main problem for the flipped classroom model is not necessarily the instructional or technical materials, but how to spend class time." This present study tries to reveal the implementation of flipped classroom model in teaching English as a foreign language, specifically in a speaking class of higher level education. (Bergmann and Sams, 2012) mention that the goals of the flipped classroom are giving today's topic, helping busy students, helping struggling students, excelling students' ability and students' learning autonomy, increasing student-lecturer interaction, increasing student-student interaction, offering different learning experience, changing the classroom management, and educating parents. This study highlights the goals of the research based on the four Pillars as mention in flipped network (2014), the first is to gives flexible environment, the second is learning culture, the third is intentional content, and the last is professional educator.

According to the gap and background of study, the writers propose some research questions. They are; 1) How does the lecturer

implement the flipped classroom model in listening class? 2) How do the students perceive this learning experience related to their literacy development?

## Methodology

### 1. Research Method

This study uses data from the case study of the implementation of flipped classroom in listening class and the students' perception toward it. The method aims at getting the knowledge of English lecturers regarding the implementation of flipped classroom in MALL framework for developing students' digital literacy, the nature of the relationship between MALL and 21st century learning skills known by English lecturers in listening class by using flipped classroom model. At times, a case study is a type of ethnographic research study that focuses on a single unit, such as one individual, one group, one organization, or one program Ary, Jacob, and Sorenson (2010). They also assert that case studies use multiple methods, such as interviews, observation, and archives, to gather data. Cohen, Manion, and Morrison (2000) defines case studies can establish cause and effect, indeed one of their strengths is that they observe effects in real contexts, recognizing that context is a powerful determinant of both causes and effects.

The observation, questionnaires, and interview are also conducted to the lecturers and students in listening. The observation is conducted in order to investigate how do the lecturers implemented the flipped learning model in listening class. The writer is observed the listening class during two months. There are 8 meetings in average. Furthermore, the questionnaires are spread out to the students to investigate their perception toward the implementation of flipped learning model in listening class. Moreover, the interview is aimed at confirming what had been done by the lecturer dealing with the implementation of the flipped learning model in listening class in order to improve their professional

development to prepare 21<sup>st</sup> century skill for the students. There are 21 students and two lecturers in English Department from both universities in West Java. The writer only took one class from each university as respondents for this research. They are the fourth semester student and the lecturer is teaching listening.

The first lecturer entails the students to involve in shared, model, and independent listening with various genres, language features and vocabulary activities appropriate to their age. It also involves students responding at different levels of literal, inferential and critical understanding with information spoken text. At the same time many of these activities occurred with digital texts such as internet sites. Students interact with texts and with others as they researched information in mobile. On-screen listening incorporates multisensory activities such as searching, viewing, browsing, scrolling and navigating together with the clicking and scrolling of a mouse, responding to animated icons, hypertext, sound effects, and the continuous pathways between and within screens. The definition of listening is as 'listening and viewing', and this is consistent with terminology that occurs in many curriculum documents. As listening and viewing are often an interchangeable process, listening should include aspects such as analyzing, browsing, decoding, hyper linking, interpreting, navigating, responding and searching.

The second lecturer uses digital story to teach listening. The questions based on the revised Bloom Taxonomy apply to build students' scaffolding skill and differentiate the instruction. "In the language classroom, lecturers can plan classroom questioning and discussion time to tap into particular higher order thinking skills" (Collins, 2014) as cited in Othman (2015). This can be carried out through the use of literature. Erkaya (2005) cited in Othman (2015) "points out those using stories to develop children critical thinking can be 'natural, familiar and sometimes fun". Using the story and

applying Bloom's Taxonomy for instances, remembering – list the items used by character in the story. Moreover, Understanding – explain why it happens. Furthermore, applying – demonstrate what the details information are. Next, analyzing – compare this story to reality. What events could not really happens. Evaluating – judge whether the character was good or bad. Defend your opinion. Creating – propose how the story would be different if they change one of the characters.

### Findings

The first research question focuses on investigating the implementation of flipped classroom model in listening class. The data's components are using technology to (1) stimulate students critical thinking about authentic issues, (2) able to use technology to guide the students in managing their learning, (3) able to use technology to help my students develop diverse perspectives for factual issues is able to use technology to help the students engage in reflection and develop higher-order thinking, (4) to facilitate students in participating in collaboration with technology and (5) be able to guide the students in constructing higher-order thinking by the representations of knowledge using technology.

The recent, persistent enthusiasm for developing so-called "21st century skills" argues, at least tacitly, that someone who is technologically literate knows how to use a number of devices and programs expertly Bullock (2011) in Kosnik et. al (2016). Thus it is in line with the questionnaire, the answer to research question number two is that the flipped classroom model (1) motivated the participants to learn English idioms and to improve their oral ability, (2) enhanced the participants' idiomatic knowledge and oral ability, and (3) engaged the participants in the learning tasks.

The results from the interview showed that the responses of the understanding of flipped classroom model in meaning-making are various. The responses



are mostly they are giving positive responses. It meant that lecturer is at first unfamiliar with the flipped classroom model. There are some responses as evidenced by interviews and observations. As the technology is growth they become familiar with this model. Bullock (2011) argues “the intersection of digital technologies and lecturer education as a task of learning *about* technology, then we might further argue that our point in lecturer education is to provide candidates with experiences in which they develop an understanding of *the nature of technology*.” The lecturer at first did not understand the meaning of mobile assisted language learning. In this interview, lecturer heard about the word ‘MALL.’ The lecturer gave different response through the interviewee explained the term into another context. This finding offers a new perspective for lecturer the term of MALL in teaching English. Another focus of the interview uses technology to facilitate deconstruction and joint construction of multimodal texts in listening. The findings show that at first the lecturer used simple technology tools, such as PowerPoint presentation and video for learning. Furthermore, the lecturer experience with MALL began to use various technology tools in teaching their students. Some of the tools included online dictionary, YouTube, Facebook, Quiper School, Edmodo, Microsoft 365, and video presentations implement of flipped classroom model in listening class. The knowledge of English lecturer in flipped classroom model prepares (1) student’s preliminary concepts about the topic of inquiry; (2) understanding to prepare students for a listening task; (3) facilitating various text to enhance higher-order thinking; (4) leading students in comprehending a text; (5) supporting students in their autonomous construction a text; (6) sequencing the teaching and learning phases to facilitate student’s in meaning-making text. Preparing lecturer to cope with 21st-century quality learning requires lecturers' skill in understanding and

dealing with various devices, information, and work that integrate with computer-based within the context of the lessons.

Although English lecturer has sufficient knowledge related to the flipped classroom model, the lecturer still has difficulty in implementing online flipped classroom. The obstacle is unfamiliarity with the term MALL though they have understood about a reverse learning model and multimodal text that consists of more than one communication modes such as words, images, sounds, gestures, and movements. Those are happened outside the classroom. Lecturer/lecturer needs more explanation about the digital literacy in applying the term into English classroom in the context of flipped classroom model.

Investigating the English lecturer in developing flipped classroom model and digital literacy in higher education context described that lecturer have new paradigm about meaning-making in his/her teaching and learning process for both lecturer and students. Despite the fact that the lecturer knows and applies some models in teaching English using different forms-visual and auditory sources, such as images, background music, speeches, language, and movement, the term MALL is new and becomes challenges for them. The multimodal literacy makes senses further than the linguistics position of communication (Drajati, et al., 2017). This requires of visual, sound impression, and colors are also tools for communicating meaning to both for lecturers and students.

By having the knowledge of MALL literacy, lecturer agrees that there is strong relationship between English lecturer in flipped classroom model and higher-order thinking in 21st century learning. The lecturer is using technology to stimulate students’ higher-order thinking about authentic issues, to guide the students in managing their learning, to use technology to help students to increase various points of view for current issues, to facilitate students in participating in collaboration with

technology and to guide their students in constructing representations of knowledge using technology. Flipped Classroom model in MALL literacy framework gives new perspectives for diverse students to learn English better through images, sounds and movements to create a better learning environment to achieve students' language mastery as assume by Moreno (2002). Giving the students varied types in language learning create life-story learning. This provides an impact for encouraging students to direct, deploy and comprehend how these means relate to each other (Mayer, 2003).

The investigation of MALL framework in the context of flipped classroom model English classroom describe that there are two interesting findings in the term of technology media tools known by English lecturers. The lecturer adds range in making use of technology tools in their classrooms. The lecturer knows and applies different devices. Previously, lecturer uses the modest technology media tools, such as power point and video in creating the classroom more alive and creative. Based on these kinds of data, it needs continued professional development related to the making use of technology tools into the classrooms. It can be started when lecturers are in the college. The other professional developments could continue to prepare experienced lecturers with small discussion between lecturers, lecturers-universities lecturers, lecturers-government continued professional development center.

The application of the use of technology in the English classroom still gives challenges. The other reasons are fear of change and limited time and facilities supported frequently perceived as the facts that cannot be doubted (Mishra & Koehler, 2009). There are problems arisen in using technology in the classrooms, non-technical and technical problem. The non-technical problems are lecturer does not give any improvement in teaching learning process since there is no interactive communication. It needs the pedagogical point of view in the

educational process. Lecturers need to create a collaborative learning environment through students-students, student lecturer, and student-learning situation. The role of a lecturer in teaching using flipped classroom model framework gives scaffolding; facilitate a secure situation for students. At the same time, lecturer faces the technical problem which is internet connectivity becomes the primary challenge for lecturer to teach English. It needs knowledge how technology-enhanced language learning can be used in an offline format, not always in an online format. Regarding language learning, English language lecturer played significant roles in developing the quality of the teaching-learning process. The flipped classroom model framework is needed for lecturers to improve the three most important points of technology, knowledge, and content in supporting each other and engaging of students' achievement. The results of flipped classroom model framework are developing both lecturers and students' multimodal literacy and develop higher-order thinking in 21st century learning.

In general, most students expect to use these digital tools in their university studies. Although they did not anticipate using photo sharing applications in their studies, they saw that they might use some of the other tools listed for educational purposes. Generally though, they anticipated using presentation and video tools for their university studies, and this could well reflect their prior use of them in school and other educational settings.

Many students reported a lack of confidence in using more unfamiliar tools in their university studies (screen shooting, web-based response systems, broadcasting, social networking, blogging and interactive online sticky notes in particular). Confidence in the use of presentation tools, wikis, photo sharing, synchronous tools, and micro-blogging was higher, and as might be expected they felt very confident. Thus, by introducing multimodal literacy in

technology, they will improve higher-order thinking and ready for the 21<sup>st</sup> century learning.

### Conclusion

The findings from this research study reveal positive outcomes as well as challenges for new model. The first question reveals classroom evidence demonstrates that lecturers can combine students' print-based literacy learning with digital communications technology effectively. The reverse teaching and learning process help the students build their background knowledge, especially in listening class. The implementation of the flipped classroom model is whether the students actually do the preparation work outside of class or not. The lecturer cannot engage them at an advanced level inside the classroom because of limitation of time. Many strategies have been suggested for lecturers to use to ensure that the work is done (Mull, 2012) in Hsieh et. al. (2016). The recent study was able to trounce this barrier and encourage the students to do the work because the teaching design was entrenched in the output materials, i.e. the online written and audio posts. In order to accomplish at creating the outputs, the students had to understand the previous learning materials. In addition, the lecturers give feedback, so the students knew that they were being monitored and their progress evaluated, beyond the decisive feedback given during teaching process. Furthermore, the in-class activities essentially add specific knowledge and it was simple for the lecturers to distinguish and interfere with students who were not prepared for the lesson. The second research question describe that the most of the students found WHATSAPP to be a beneficial technology for the flipped classroom model.

This outcome was achieved by lecturers recognizing the need to adapt classroom communication to those digital communication practices that students access outside school and that will be significant in the future for their students. There are many

exciting and innovative experiences throughout the study that provide evidence that lecturers are planning creatively to engage students in effective literacy learning. However, there are several challenges existing within this relatively new learning environment. It needs to accept that there are unanswered questions within a time of transition for education continues to blend new with traditional approaches to learning and teaching. Ensuring with the incorporation of digital communication technologies basic aspects of listening, writing, language learning, grammar, spelling and punctuation are still explicitly taught. However, it is clear that are now 'basic' for listening and writing with digital and multimedia texts. Lecturers in this project assessed students' listening and production of multimodal texts in relation to Syllabus outcomes but further research is needed for specific assessment criteria that will reflect changing practices.

The data from the study offers evidence for new descriptors of literacy and theorizes the concept of 'multimodal literacy' within the development of higher-order thinking. These new descriptors, which are proposed as a 'work in progress' that others may build on and critique, are in accord with other ongoing research. They need to be considered for incorporation into curriculum documents for planning, teaching and assessment. At the same time it is important that such descriptors be framed within consideration of social aspects of communication.

If educators were to understand the real impact of information technology inside the classrooms, it is important to look deeply at how information technology is used in relation to the whole learning process. As learners, gaining the "functional" aspect of literacy is not enough. It is by becoming "literate" in the broadest sense that they become engaged learners. This applies not only in society in general but more so in educational settings where learners and instructors both face this new world of

information technology. For learners, it is by becoming not only critically aware about information available to us, but also by gaining competency in different modalities as well as traditional literacy that they become engaged knowledge builders. This is what is of principal importance today.

Lecturers need to be equipped with the right knowledge on digital literacy and skills so as to ensure the intended objectives of the curriculum are achieved. In order to produce learners who can think critically, lecturers need to be trained to understand the concept of higher-order thinking itself and the appropriate pedagogical approach to teach higher-order thinking effectively. Lecturers need to change from being “information dispenser to being an orchestrator of learning” (Greenberg, 2014) as cited in Othman, where knowledge is co-constructed with the learners. To apply this, they will need constant professional development and support from the policy makers, curriculum developers and school administration.

Flipped classroom model and Multimodal literacy are a way to introduce educators and students to a different way and use them to develop English ability. In this investigation, the lecturers have investigated the new perspective how their performance of their teaching and learning process in the classroom. The lecturers may have been known and apply the technology in their classroom, but they do not sure yet about the flipped classroom model framework and the impact on it, multimodal literacy.

The investigation describes the lecturers’ knowledge about flipped classroom model framework and multimodal literacy. There are some technology software and tools to help lecturers in the teaching process and become a challenge for lecturers to learn and apply the flipped classroom model framework. Though it is stated on the data that flipped classroom model framework and multimodal literacy is a new term and lecturers feel unfamiliar with the two terms, it is assumed that it will give new ways for

lecturers to learn these terms quickly. It needs little help from lecturers to open the mindset of lecturers and need some practices in making use of technology for language learning using flipped classroom model framework to provide the advantages to developing the quality of English lecturers’ professional development. Flipped classroom model and the multimodal literacy for English lecturers need to be developed by English lecturers to build, improve, and innovate themselves to be professional lecturers and create innovative students. This kind of efforts could be better supported by university environment, stakeholders, and government.

These findings provide more evidence to support the claim that digital technologies are universal in the daily life of learner. The results also show that university students would like to use the digital tools that they know in their studies, and in the case of some tools they believe that they *should* use them for learning. At the same time the results suggest that it is necessary to spend more time in training new lecturers in the use of these technologies for educational purposes. Although these new entrants to higher education were familiar with a range of new technologies, their experience of using them was mainly restricted to everyday social interaction. What is encouraging about the findings is their recognition that technologies have a role to play in their own learning.

## References

- Afrilyasanti, Rida; Cahyono, Bambang, Yudi; Astuti, Utari, P. (2016). Effect of flipped classroom model on Indonesian EFL students’ writing ability across and individual differences in learning. *International Journal of English Language and Linguistics Research*, 4(5), 65–81.  
<https://doi.org/10.1111/1365-2664.12754>.
- Ary, Donald; Jacobs, Lusy Cheser; and Sorensen, Christine K. (2010).



- Introduction in Research Education: Eight Edition.* Wadsworth. USA.
- Bergmann, Jonathan and Sams, Aaron. 2012. *Flip your classroom: Reach every student in every class every day.* International Society for Technology in Education. USA.
- Bishop, J., & Verleger, M. (2013). Testing the flipped classroom with model-eliciting activities and video lectures in a mid-level undergraduate engineering course. *Proceedings - Frontiers in Education Conference, FIE*, 161–163. <https://doi.org/10.1109/FIE.2013.6684807>.
- Boschman, F., McKenney, S., & Voogt, J. (2014). Exploring lecturers' use of FLIPPED CLASSROOM MODEL in design talk: The collaborative design of technology-rich early literacy activities. *Computers & Education*, 82, 250-262.
- Bullock, S. (2011). Teaching 2.0: (Re)learning to teach online. *Interactive Technology and Smart Education*, 8(2), 94–105.
- Cahyono, B. Y., & Kurnianti, O. D. (2016). Indonesian EFL lecturers' application of FLIPPED CLASSROOM MODEL in in-service education teaching practices. *International Journal of English Language Teaching*, 4(5), 16-30.
- Carrington, V. (2005). New textual landscapes, information and early literacy. In J. Marsh (ed.), *Popular Culture, New Media and Digital Literacy in Early Childhood*. London: RoutledgeFalmer.
- Cohen, Louis; Manion, Lawrence; and Morrison, Keith. (2000). *Research Methods in Education: 5<sup>th</sup> Edition*. Routledge Falmer. USA.
- Drajati, NurArifah, et.al. (2017). *Asian English Language Classrooms Where Theory and Practice Meet*. Edited by HandoyoPujiWidodo, et.al. Routledge, London, and New York.
- Forssell, K. S. (2011). *Technological pedagogical content knowledge: Relationships to learning ecologies and social learning networks* (Doctor's dissertation). School of Education, Stanford University.
- Hsieh, Jun Scot Chen; Wu, Wen-Chi Vivian; Marek, Michael W. (2016). Using the Flipped Classroom to Enhance EFL Learning. *Article: Computer Assisted Learning*. DOI:10.1080/09588221.2015.1111910. ResearchGate Publication. 283014360.
- Kern, Robert. (2000). *Literacy and Language Teaching*. Oxford University. New York, USA.
- Kosnik, Clare; White, Simone; Beck, Clive; Marshal, Bethan; Goodwin, A. Lin; Murray, Jean. (Eds.). (2016). *Building Bridges, 3–16*. Sense Publishers. Rotherdam.
- Li, W., & Xia, G. (2016). An empirical study on college English lecturer's FLIPPED CLASSROOM MODEL: Theory and application. *IOSR Journal of Engineering*, 6(4), 2278-8719.
- Maninun, C., & Kittichartchaowalit, K. (2017). Effects of Team-Based Learning in a Flipped Classroom With Enhancement of Listening and, (1), 1–5.
- Mayer, R. E. (2003). Elements of a science of e-learning. *Journal of Educational Computing Research*, 29, 297-313.
- Mervat Abd Elfatah Ali Said Ahmed. (2016). The Effect of a Flipping Classroom on Writing Skill in English as a Foreign Language and Students' Attitude Towards Flipping. *US-China Foreign Language*, 14(2), 98–114. <https://doi.org/10.17265/1539-8080/2016.02.003>.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for lecturer knowledge. *Lecturers CollegeRecord*, 108(6), 1017–1054.
- Moreno, R. (2002). *Who learns best with multiple representations? Cognitive*

*implications for individual differences in multimedia learning.* Paper presented at World Conference on Educational Multimedia, Hypermedia, Telecommunication, Denver.

Niess, M. L. (2005). Preparing lecturers to teach science and mathematics with technology: Developing a technology pedagogical content knowledge. *Teaching and Lecturer Education*, 21, 509–52.

Othman, Julia. 2015. Skill for 21<sup>st</sup> Century. Power Point Presentation at the 2<sup>nd</sup> International Seminar TIE ALLSAW. Unpublished.

Tazijan, F. N., Abdullah, C. H., Zainol, N., & Noor, S. M. (2017). Building Communication Skills through Flipped Classroom, 3(1), 142–147.